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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,396	01/02/2004	Takeshi Yamamoto	247209US2	2864
22850	7590	08/08/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			CHEN, WEN YING PATTY	
1940 DUKE STREET			ART UNIT	
ALEXANDRIA, VA 22314			PAPER NUMBER	
			2871	

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/749,396	Applicant(s) YAMAMOTO, TAKESHI	
	Examiner Wen-Ying P. Chen	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

This Office Action will replace the prior Office Action filed on March 21, 2005.

Response to Arguments

Applicant's arguments filed 6/21/05, with respect to the rejection(s) of claim(s) 1-4 under 35 USC §102(e), claim(s) 5-6 and 9 under 35 USC §103(a) and claim(s) 7 and 8 under 35 USC §103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the references listed as follows:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 5-6, and 8-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Ochiai et al. (US 6768531).

With respect to claim 1: Ochiai et al. disclose in Figure 10 a liquid crystal display apparatus comprising: a plurality of pixels which are disposed in a matrix (Column 8, lines 12-15), the pixels including a first pixel (area corresponding to element G) with a first gap (element T1 as indicated in the figure below) for interposition of the liquid crystal layer (element LC) between the first substrate (element SUB1) and the second substrate (element SUB2), and a

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second pixel (area corresponding to element R) with a second gap (element T2 as indicated in the figure below) that is smaller than the first gap; and a columnar spacer (element SUP) for creating the second gap, the columnar spacer being disposed at the second pixel.

As to claim 2: Ochiai et al. disclose that the columnar spacer is formed of a photosensitive resin material (Column 14, lines 12-16).

As to claim 5: Ochiai et al. disclose in Figure 10 that the first pixel includes a first color filter layer (element G) that has a first film thickness (element d1 as indicated in the figure below) and mainly passes first color light, the second pixel includes a second color filter layer (element R) that has a second film thickness (element d2 as indicated in the figure below), and mainly passes second color light, and the columnar spacer is disposed over the second color filter layer.

As to claim 6: Ochiai et al. disclose in Figure 2 and 10 that the first substrate (element SUB1) includes the first color filter layer (element G), the second color filter layer (element R) and the columnar spacer (element SUP), and the first substrate further includes scan lines (element GL) disposed in a row direction, signal lines (element DL) disposed in a column direction, switching elements (element TFT) disposed near intersections of the scan lines and the signal lines, and pixel electrodes (element PX) that are connected to the switching elements and are disposed in a matrix.

As to claim 8: Ochiai et al. disclose in Figure 10 that the plurality of pixels further include a third pixel (area corresponding to element B) with a third gap (element T3) that is greater than the first gap (element T1).

Huh et al. disclose in Figures 4 and 5 a liquid crystal display apparatus comprising: a plurality of pixels which are disposed in a matrix, the pixels including a first pixel (area corresponding to element R) with a first gap for interposition of the liquid crystal layer (element 900) between the first substrate (element 10) and the second substrate (element 100); a second

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pixel (area corresponding to element G) with a second gap that is smaller than the first gap; a third pixel (area corresponding to element B) with a third gap that is smaller than the second gap; and a columnar spacer (element SUP) for creating the second gap, the columnar spacer being disposed at the second pixel (Paragraph 0053, wherein columnar spacers are disposed at every pixel for maintaining the panel's cell gaps).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966); that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ochiai et al. (US 6768531) in view of Yanagawa et al. (US 2002/0113936).

Ochiai et al. disclose all of the limitations set forth in the previous claims, but fail to specifically disclose that the columnar spacer has light shield properties or that the liquid crystal

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display apparatus further comprises a light shield layer and that both the light shielding layer and the columnar spacer are formed of the same material.

However, Yanagawa et al. disclose in Figure 2 a liquid crystal display apparatus comprising of a light shield film (element BM) disposed in a picture-frame shape along a peripheral edge of the display region and a columnar spacer (element 10), which are formed of the same material and both having light shield properties (Paragraphs 0057 and 0058).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a liquid crystal display apparatus as taught by Ochiai et al. wherein the display apparatus comprises of a light shield film and that the columnar spacer has light shielding properties and being formed of the same material as the light shield film as taught by Yanagawa et al., since Yanagawa et al. teach that the aperture ratio of the display apparatus can thus be improved (Paragraph 0059).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Ying P. Chen whose telephone number is (571)272-8444. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wen-Ying P Chen
Examiner
Art Unit 2871

WPC
7/25/05



ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800